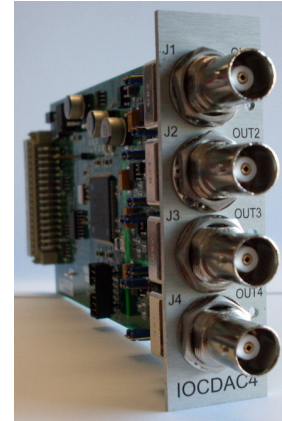




IOCDAC4 DIGITAL TO ANALOG CONVERTER MODULE



FEATURES

- Digital to analog converter module (DAC)
- 10 bit resolution
- Four independent channels
- Super commutation supported
- AC/DC output coupling
- Output voltage ranges: 0V to +5V; +/- 2.5V; 0V to +10V; +/- 5V; +/- 10V; -5V to 0V
- High current output drivers
- Reconstruct filters: 100 Hz to 10 KHz
- Programmable features:
 - ◊ Word location
 - ◊ Word Interval (super commutation)
 - ◊ Output range

OVERVIEW

The IOCDAC4 is a 4 channel digital to analog converter module. It is configured to pick data words from an IRIG 106 PCM stream that is decommutated by an IOCDAC2 or DECOM module in the AL2873 chassis. User setup is confined to a few parameters providing an easy to use and robust system. To configure the user sets the number of active channels (1-4), the word location in the PCM stream that will correspond to the DAC data on IOCDAC4 channel 1, and the word interval if the data is super commutated. Consecutive words in the data stream will be output on the 4 consecutive outputs of the IOCDAC4 modules, depending on the number of active channels. Each of the 4 channels voltage output range can be set independently.

Up to 13 IOCDAC4 modules can be installed in a single AL2873 chassis providing up to 52 individual DAC conversions per PCM data stream. An additional 13 data IOCDAC4 modules can be configured in an expansion chassis expanding the number of analog channels per PCM stream to 104.

Control of the IOCDAC4 is via the front panel keypad and 3" x 2" LCD or Ethernet and the APEX software package. When configured, the current setup is retained in non-volatile memory and is automatically restored on power up with a recovery time of less than 20 seconds.

APPLICATION NOTES

The IOCDAC4 is the Digital to Analog conversion portion of a data acquisition/DECOM system. This module is used in conjunction with the suite of data acquisition and decommutation boards that plug into the AL2873 chassis to recreate analog signals from an IRIG 106 PCM data stream. The IOCDAC4 is capable of reproducing analog signals from DC to 10 KHz at voltage levels of -10V to +10V . An AL2873 decommutation system is capable of decoding analog, digital, PC Com ports, audio, and IRIG timing. Typical signals (but not limited to) are receiver AGC levels, Bit Sync and Frame Sync lock status, station timing, station voice, GPS RS-232 outputs and serial data streams from antenna position encoders.

System block diagrams are shown below.

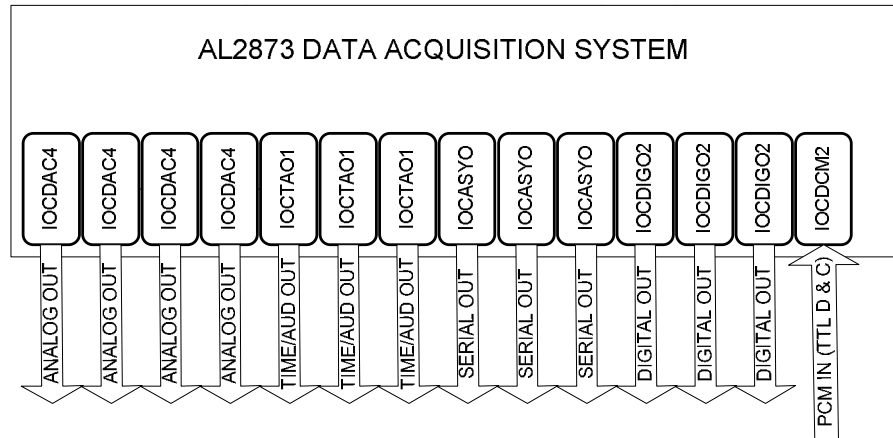
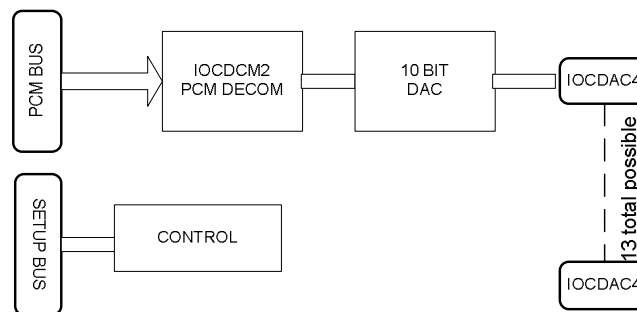


Figure 2: Functional Block Diagram



SPECIFICATIONS

GENERAL

- Single slot module (3" x 6" x 0.9")
- Up to 13 modules per chassis

INPUT

- Binary coded data on internal AL2873 PCM bus
- 8 to 16 bits
- Super commutation supported
- User selectable word location in PCM frame

OUTPUT

- Single ended analog / BNC connector
- DC to 100 Hz
- Jumper selectable output filters: 100Hz and 10KHz
- Jumper selectable output coupling: AC/DC
- Front panel selectable range per channel: 0 to +5V; +/- 2.5V; 0 to +10V; +/- 5V; +/- 10V; -5V to 0V

ENVIRONMENTAL

- Operating temperature: 0° to 50° C
- Relative humidity: 15% to 95%; non-condensing
- Altitude: Sea level to 10,000 feet

POWER

- +5V , +12V, -12V from AL2873 chassis backplane
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MEAN TIME BETWEEN FAILURES

- ~ 100,000 hours